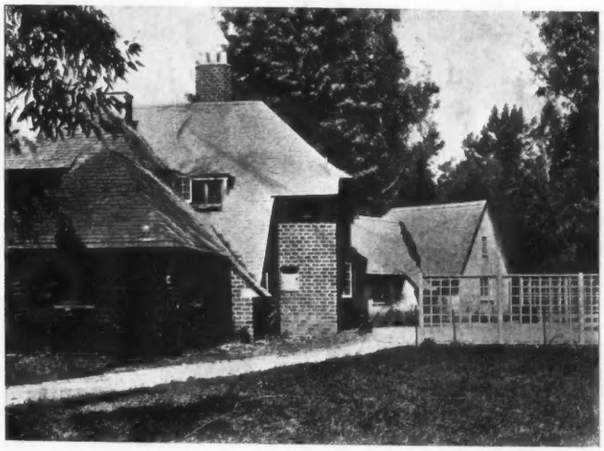
Plans of a Small Home in the West

THE BUILDING REVIEW



JANUARY, 1923

Vol. XXIII No. 1

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THE BUILDING REVIEW

VOL. XXIII JANUARY, 1923 No. 1

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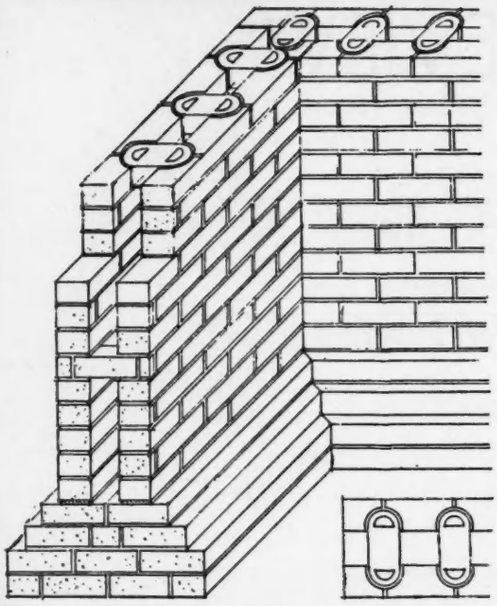

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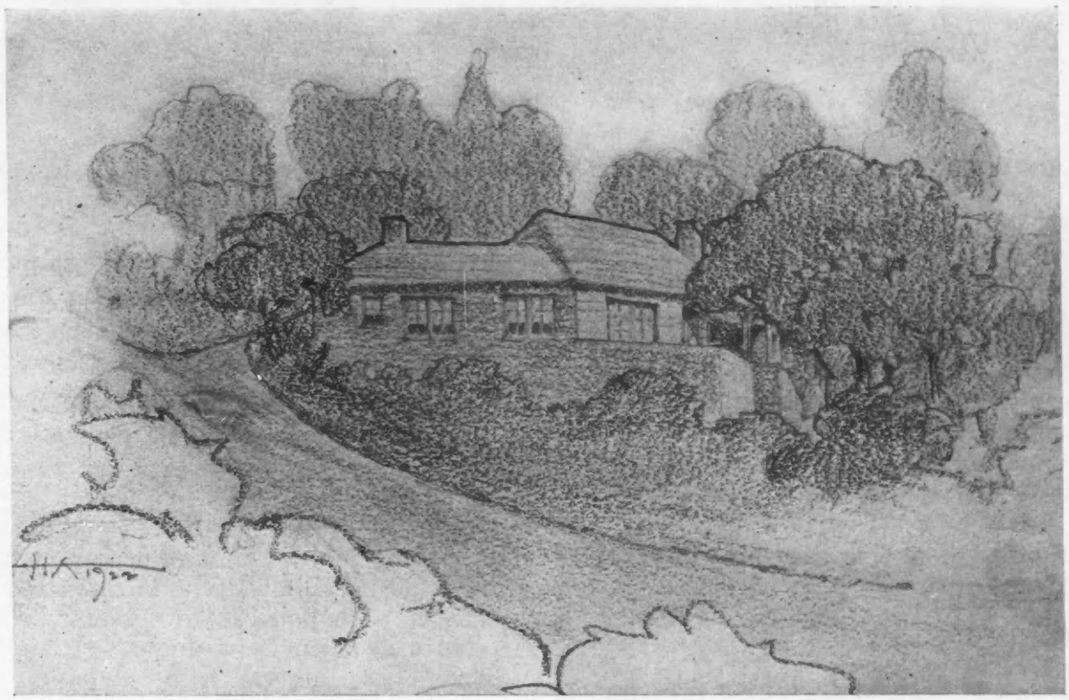


HOUSE OF C. E. GREENFIELD, SAN ANSELMO, CALIFORNIA HARRIS ALLEN, ARCHITECT

Castles in Spain and--Cottages in the Country

By CLARA FASSETT

(The first of a series on small Western homes)

It is not of castles that you are going to read; you and I are not much interested in castles—to live in. Occasionally in America one happens, perhaps a well-meant but poorly expressed symbol of a desire to capture the charm and atmosphere, the feeling of power and authority that such dwellings stand for in old-world lands. But it is noticed that people who build them seldom live in them, missing after all the elusive thing of which they dreamed. It is the little intimate house "that thrills us, that brings a sense of longing to us the older and wiser we grow."

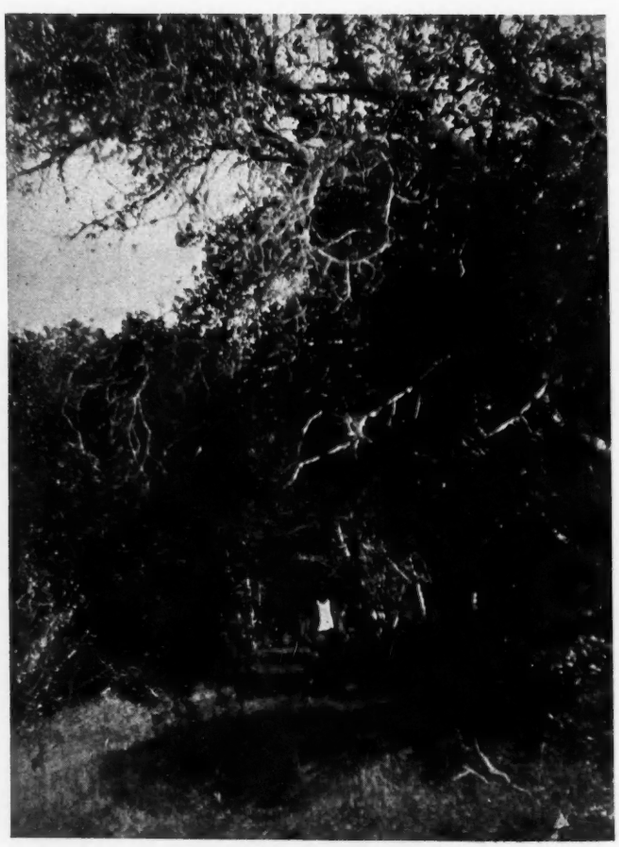
Charles Hanson Towne says "A man has arrived at Wisdom when his Castle in Spain becomes a Cottage in the Country." There or in the suburbs does the small house have a chance to stand out as an individual when properly environed and designed to co-ordinate with its particular bit of landscape setting.

Large cities whose suburbs lie many miles from the heart of town make the dream of home-owning rather impractical for the business man unless he has his private aeroplane. San Francisco is most fortunate in this respect being only thirty to forty-five minutes to a delightful hill-dotted country, which is fast being built up to permanent homes. Marin

B.J.

ENTRANCE COURT, RESIDENCE OF C. E. GREENFIELD, SAN ANSELMO, CALIFORNIA HARRIS ALLEN, ARCHITECT

County, to many, means a place to hike, and to camp week-ends; each year, however, sees more all-the-year homes built, tucked in the sunny valleys, perched on hillsides, or crowning hill-tops. It is surprising to those who are accustomed to pass through these towns via the highway or railroad, to discover back of the main thoroughfare in canyons and on hillside slopes homes, permanent all-year dwelling-places whose occupants have faced the journey by boat and train to the city for years, happy in possession of a Cottage in the Country which modern transportation has placed within the reach of all city conveniences.

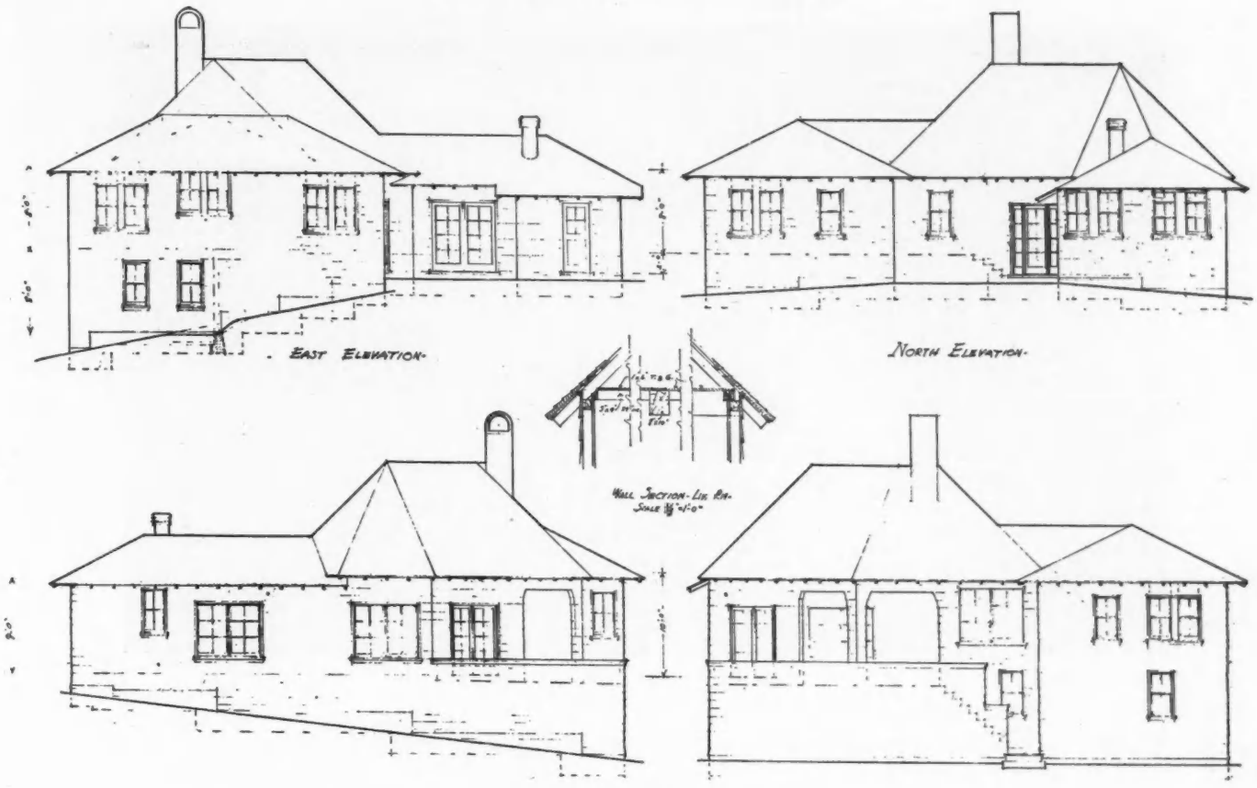


THE SITE FROM THE FRONT

More thought is being given to architectural features in the building of these houses than formerly, as one would naturally require more in the way of comfort and beauty in a year-round house than in a summer cottage. Charm in a country house, small as well as large, depends not only on beauty of line and form, but on suitability to location and environment. The house should present a complete picture in harmony with the size, shape and elevation of the lot, with surrounding trees and shrubbery.

A traveller in European lands will notice the marked difference between the small houses there, and here in America. Many of these cottages were built to last for generations. Consequently they have acquired an atmosphere that only time and long habitation by many people can give. Here, we are apt to regard the small home as a sort of temporary dwelling, a stepping stone to the more pretentious house which we will have as soon as the family grows larger, when the neighborhood becomes tiresome, or when we can "afford it." But now, happily the little house is coming into its own. The architect is giving more time and study to this problem of the small house designed to fit the needs and taste of Mr. Would-be-Home-Owner who desires something lasting and beautiful and within the limits of a moderate purse.

In so-doing the profession is rendering an important service to the people in encouraging the own-your-own-home movement. The



ELEVATION OF HOUSE

average small house, built by contractors or building associations in blocks, all alike, varying only in minor details, we buy because we must, and not because we wish a home that expresses not ours—but a sort of miscellaneous personality.

An interesting little country house designed by Harris Allen, is in process of construction on a hill-top in San Anselmo. Mr. Allen likes to plan country houses which fit into their environment, which look as though they "belonged"; which is after all when you analyze it, the appealing quality in those aforementioned cottages of the old world. The owner's idea of course must be taken as the starting point. The idea for this home as conceived in the owner's mind was a bungalow of Spanish type. Many of the distinctive Spanish features, such as plaster walls, tiled roof and enclosed patio would have been unsuited to this particular location. So it will be built of redwood stained a warm grey with steep-gabled roof designed to shed rain, elevated front terrace and rear patio sheltered on two sides. With some Spanish features it is an adaptation and entirely well-suited to the site.

Crowning the top of a hill, over-looking a wooded canyon, the lot lies, a pie-shaped section of land commanding a gracious and expansive view of Mt. Tamalpais—with its grey-green sides, jagged top and frequent halo of filmy fog—a California Fujiyama. The rear of the lot is higher than the front. Considering this in situating the house, an elevated terrace is planned at the front which leads directly through the living room to the patio at the back. The house will face south embracing view of mountain and valley and will be exposed to the sun the entire day, owing to its

(Continued on page 8)

THE SITE FROM THE SIDE

THE BUSINESS MAN'S DESK TEMPORARILY TRANSFERRED TO A DELIGHTFUL CORNER IN HIS OWN HOME

Embellishing the Telephone Corner

MARY ROBINSON THOMAS

No one questions the convenience and efficiency of the telephone! How annoyed and inconvenienced we are when it is out of order for even a few hours! And how human and inconsistent we are when we are equally annoyed and inconvenienced by its incessant ringing!

Every detail should be considered from the double point of view of use and charm. If the telephone is centrally located with all accessories nearby, and the grouping of the utilitarian makes a pleasing picture, a double function is performed, each of which is valuable. In order to meet its constant demands it must have a central location in the home. In the formal home there are usually several to answer the telephone bell and usually more than one telephone, but in the small home, where, perhaps, the mistress is housekeeper, too, the placing of this connecting link with the outside world must be carefully considered so that its use will fulfill its mission of helpfulness. In a two-storied house this cannot be satisfactorially accomplished without an extension telephone on the second floor. If one telephone is used, it is often put on a landing in a stairway. If one is on the first floor, she must climb a half flight of stairs, and if she is on the second floor, she must descend a half flight of stairs; which, of course, saves ascending or descending an entire flight of stairs each time. In the one-storied house the ideal situation for this necessity is between and adjacent to the living room and kitchen. In ministering to the house service the accessories; table, light, directory, scratch pad, calendar and pencils must be placed exactly right, in order to complete the telephone's efficiency.

NEAR THE FRIENDLY WARMTH OF THE OPEN FIRE

In a doctor's home, which is also an auxiliary office, the problem of placing the telephone conveniently has been solved satisfactorially. This was accomplished by placing a stationary instrument in the hall of the second floor, and another telephone which

A CLOCK IS OFTEN A VALUED ACCESSORY IN THE TELEPHONE CORNER

"plugs in" either in the dining room, living room or sub-office. This arrangement makes it convenient at any of these points and also makes it possible to hold a professional or private conversation shut away from the family. When not in use it can be put out of sight like the toaster or any electrical appliance, but while using it, one is sure of pleasant surroundings.

The accompanying illustrations show very clearly telephones placed in living rooms and they also show very distinctly doors leading into the kitchens.

One picture shows the window-sill telephone corner in a charming mountain cottage. Good light, both day and night, is secured here by the large window and the Russian candleabra. The window also gives a beautiful view of mountains beyond. Its proximity to the kitchen is indicated by the door to the right. Here the utilitarian enters into the composition of a real picture.

In another window-sill telephone corner the door to the witchen will have to be imagined at the right where the window ends. This picture had to include many features so it was impossible to show the door. In locating this particular telephone the thought of meeting the inevitable interruptions during meals made a busy business man decide to place it near the dining table. In other words, what could not be avoided must be endured, and in answering the many business calls, he, at least, did not have to leave the table, and many times accomplished two things at once; eating his food and listening to a protracted monologue. The window-sill is broad and provides plenty of room for the directory, etc., while the windows give an abundance of light and delightful vistas. A calendar hangs near for ready reference. In the evening, a lantern artistically provides light for note-taking. This dining room is really an alcove off of the living room so that the mistress and housekeeper reaches it with few steps from either the living room or kitchen. It fills the need of this particular household completely.

Two steps up to a landing on the way to the sleeping porch and dressing room above and one calls the number. The stairway is narrow and the landing small so the corner is provided with a shelf for the telephone when its presence should be heard and not seen. If a protracted conversation ensues one sits on a step. The window gives the needed daylight and a candle in a copper sconce hanging close by gives a soft evening light. The door at the foot of the stairs leads into the pantry. Whether the telephone is showing or not, this is a very attractive part of this room.

Another illustration shows an arrangement of telephone and accessories placed in an alcove of a living room. A Chinese tea table holds the utilitarian. As companion pieces to the table true Oriental art is displayed in the Satsuma plaque and the light suspended from a gnarled and twisted bough with a basket

(Concluded on page XIII)

ALL THE REQUISITES FOR A COZY CHAT

EDITORIAL

One of the most serious problems which has arisen in the business life of a large city is that of parking and garage space. The amount of motor traffic increases even faster than population or business; the available land space constantly decreases.

There are only two solutions; deliberately devoting valuable office space to a building entirely for garage purposes, with elevators, ramps and turntables or using as much basement space as possible under office buildings. And even a combination of both schemes is likely to prove inadequate in the not far distant future.

In the two new office buildings, illustrated in this issue, it is noteworthy that garage space has been reserved in both basements. Not only should all new city business structures include such provision, but it would undoubtedly be well worth while to remodel many large existing buildings so as to permit a ramped entrance to their basement stories and the utilization of extra space therein for machine parking.

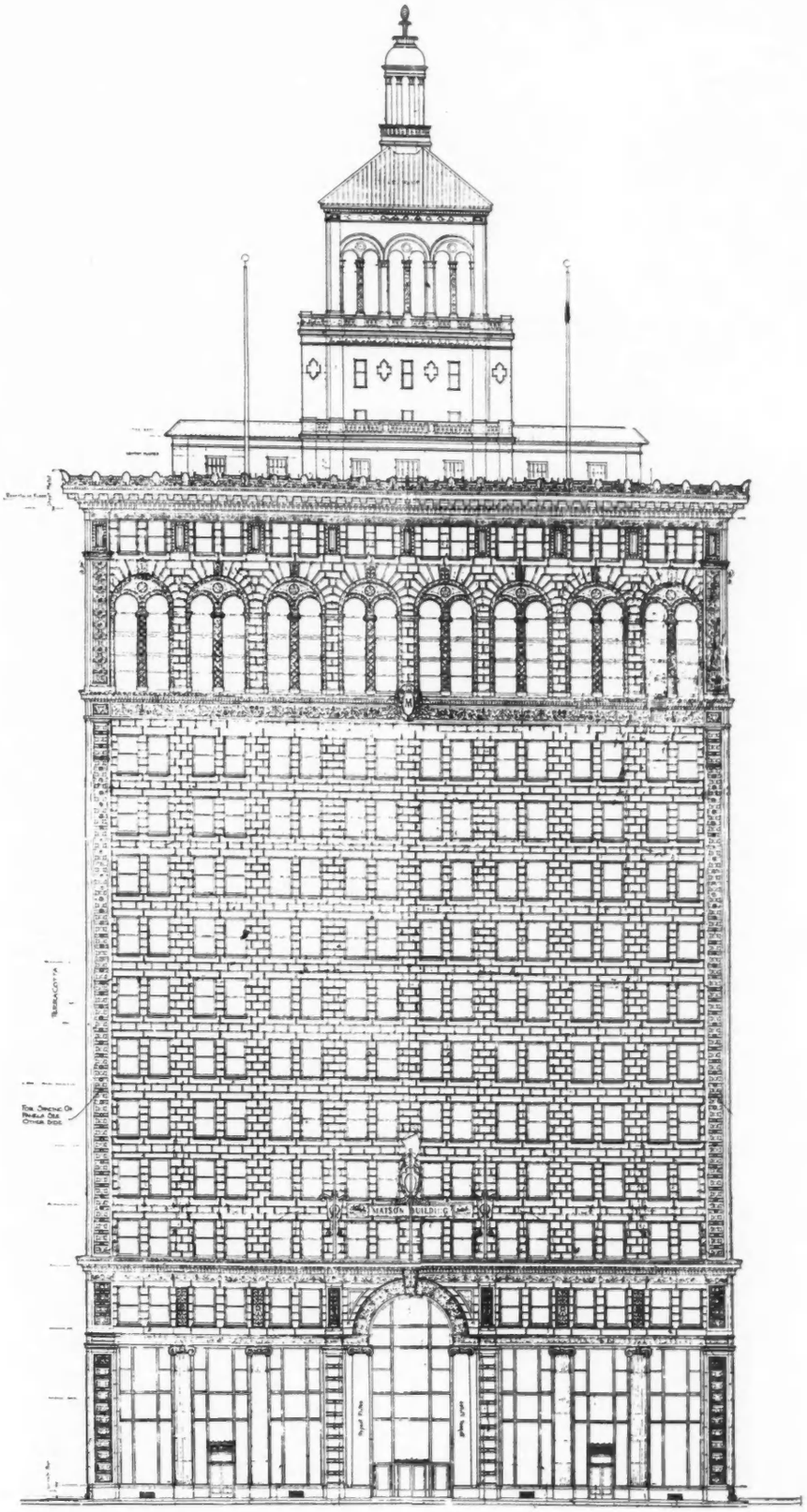
The fact that many business streets, arteries of traffic, have finally been widened at tremendous cost, shows that the apparently impossible can be done when necessity commands. The impossibility of putting ten cars in the space for one, will sooner or later force this issue; and it is a wise owner who forestalls the inevitable.

A GREAT ISSUE

The Building Review for February will present the work of Allison & Allison, architects of Los Angeles. The reputation of this firm is not confined to Southern California, nor to this State, nor to the West. It has a place among the two or three great school specialists of the entire country. For an adequate, though not complete, showing, more than 150 cuts have been prepared, including plans and details, beside a number of articles by competent writers, reviewing the architectural and technical excellence of these buildings. "Cameo" heavy-coated paper with a special grade of ink will be used, and no pains spared to make this the finest publication of its kind that has yet been produced in America. Extra copies of this issue may be procured at the price of One Dollar each, until the issue is exhausted. Reservations are now being made.

A Partial List of the School Buildings to be Illustrated

University of California, Southern Branch.
Elementary School, La Canada, Colorado.
John Adams School, Santa Monica, California.
McKinley Elementary School, Santa Monica, Cal.
Central Ave. Ele'tary School, Santa Monica, Cal.
High School, Santa Monica, California.
Elementary School, Spadra, California.
Elementary School, Ranchito, California.
Elementary School, Little Lake, California.
High School, Burbank, California.
Elementary School, Burbank, California.
Santa Paula High School, Santa Paula, Calif.
Wild Rose Elementary School, Monrovia, Calif.
Whittier College, Whittier, California.
Union High School, Santa Maria, California.
Elementary School, No. 1, Glendora, California.
Wilmington High School, Los Angeles, Calif.
Elementary School, No. 2, Azusa, California.
Elementary School, Colton, California.
Elementary School, Oxnard, California.
Ynez Elementary School, Alhambra, California.
Marengo Primary School, Alhambra, California.
Central Elementary School, Alhambra, Calif.
Union High School, Oxnard, California.
Coronel School, Los Angeles, California.
Atlanta Ave. School, Long Beach, California.
Jefferson Jr. High School, Long Beach, Calif.
Luther Burbank School, Long Beach, Calif.
Union High School, Redondo, Calif.
High School, Chandler, Arizona.
Union High School, Fowler, California.
High School, Monrovia, California.
Colton Union High School, Colton, California.
Lincoln Jr. High School, Santa Monica, Calif.
Union High School, Merced, Calif.
Washington School, Pasadena, Calif.
High School, Orange, California.
Van Nuys High School, Los Angeles, California.
Union High School, Palo Alto, California.
Wilmington High School, Los Angeles, Calif.
Gallatin High School, Los Angeles, California.
Fremont Ave. School, Alhambra, California.



MARKET STREET ELEVATION,
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BLISS & FAVILLE, ARCHITECTS

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PERSPECTIVE
PACIFIC GAS & ELECTRIC CO. BUILDING
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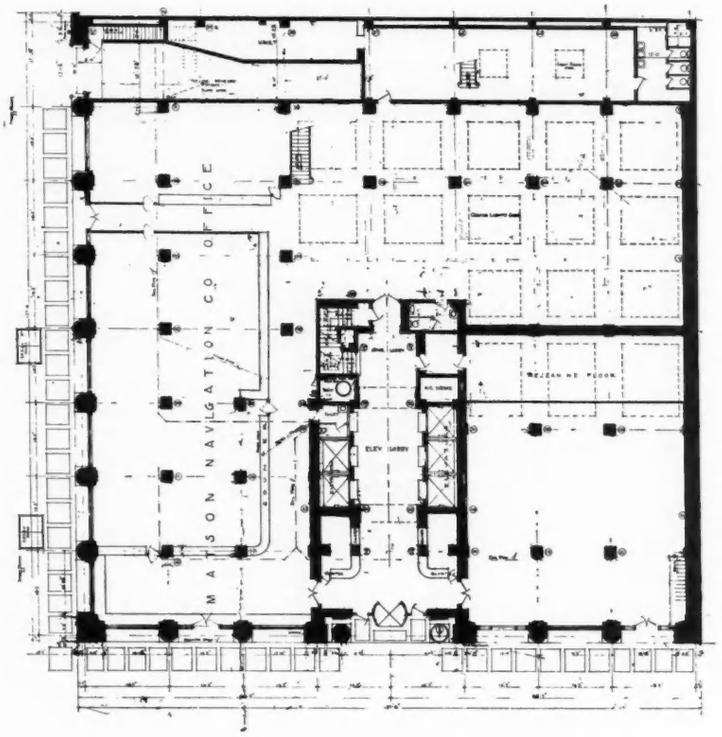

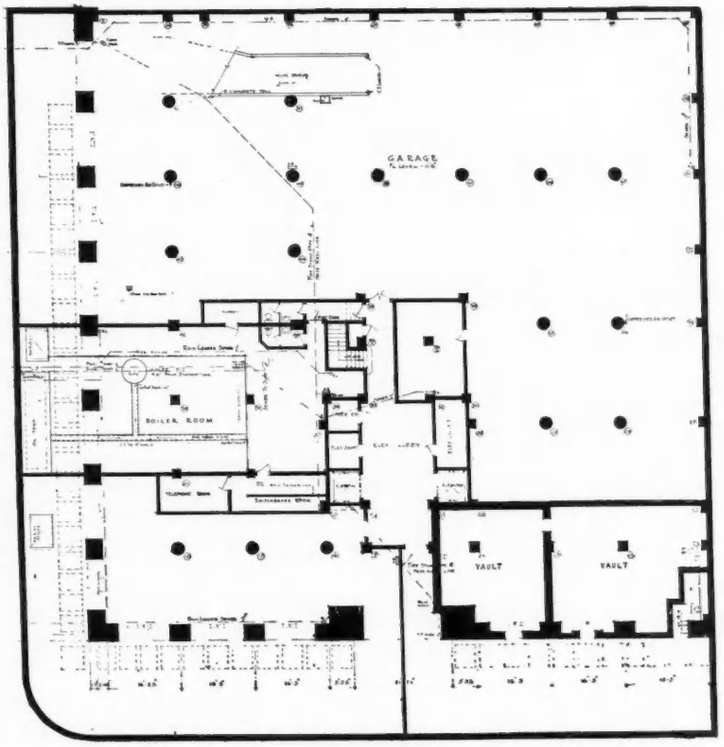

BASEMENT AND FIRST FLOOR PLANS
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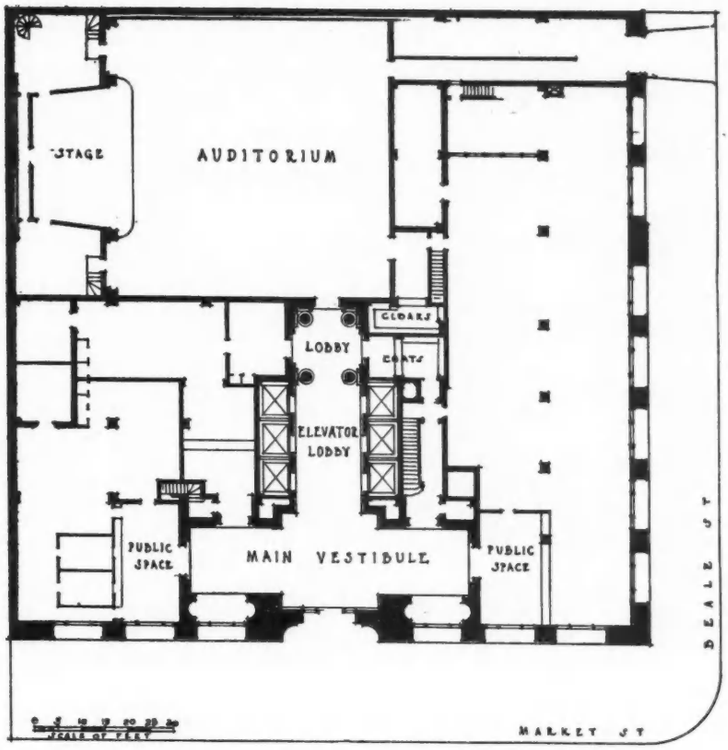

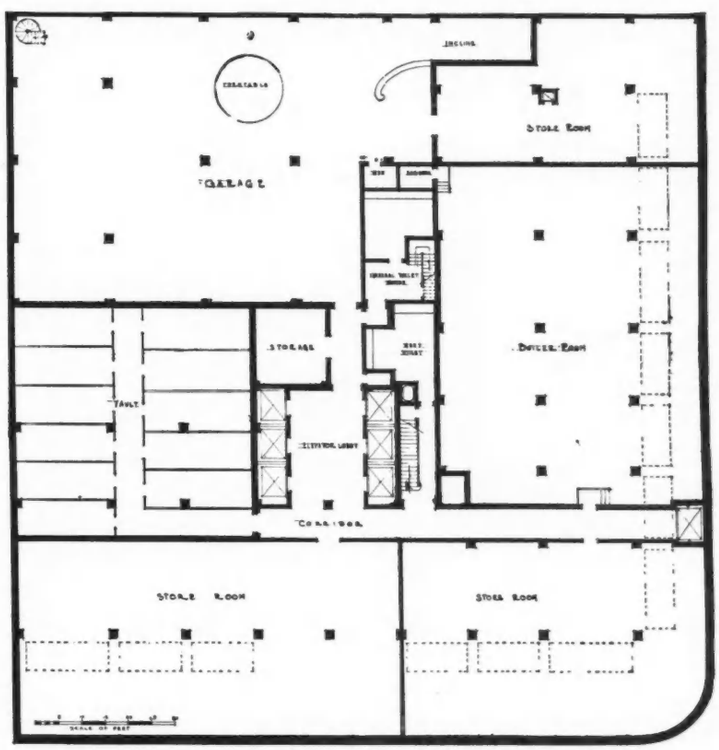

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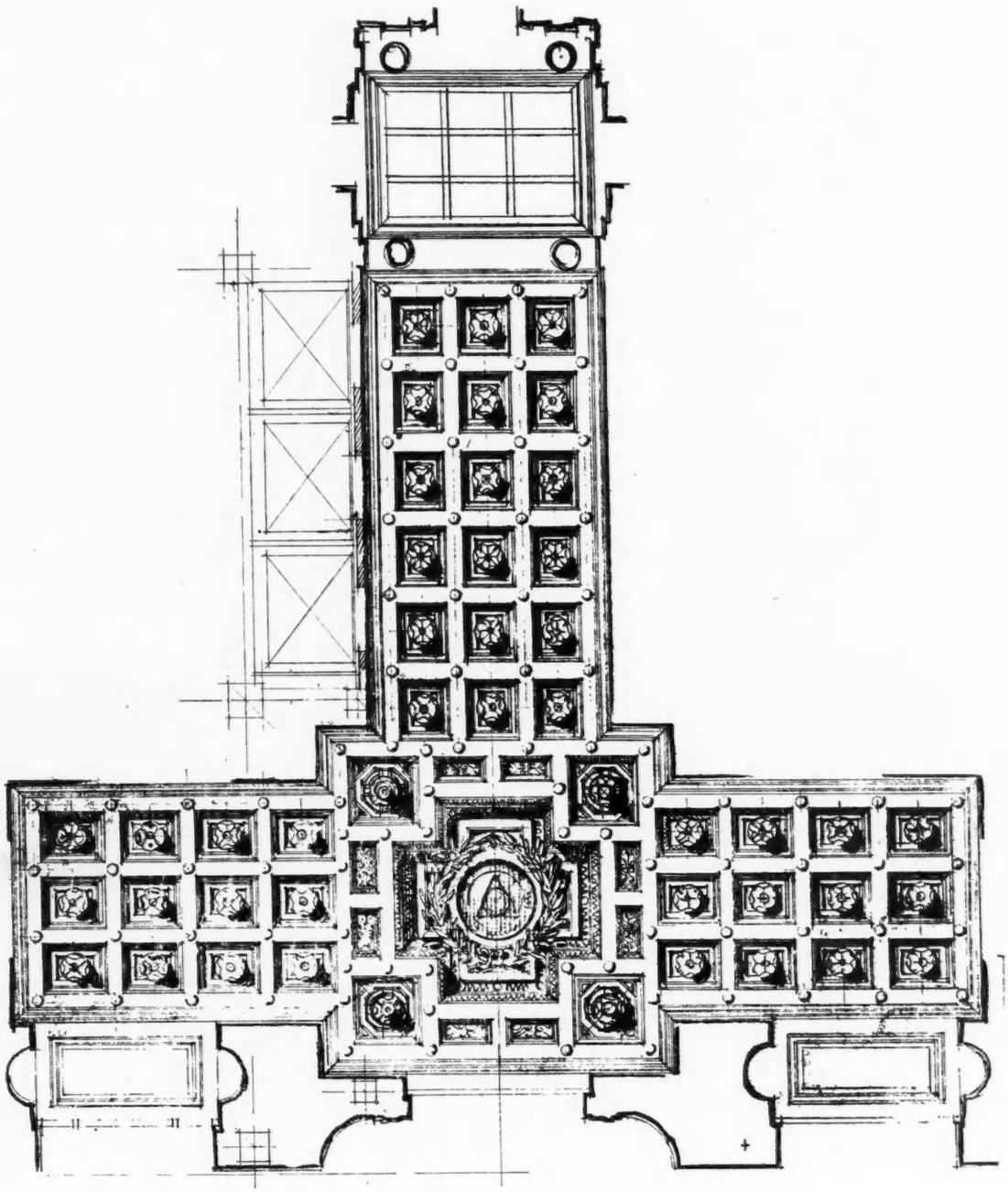

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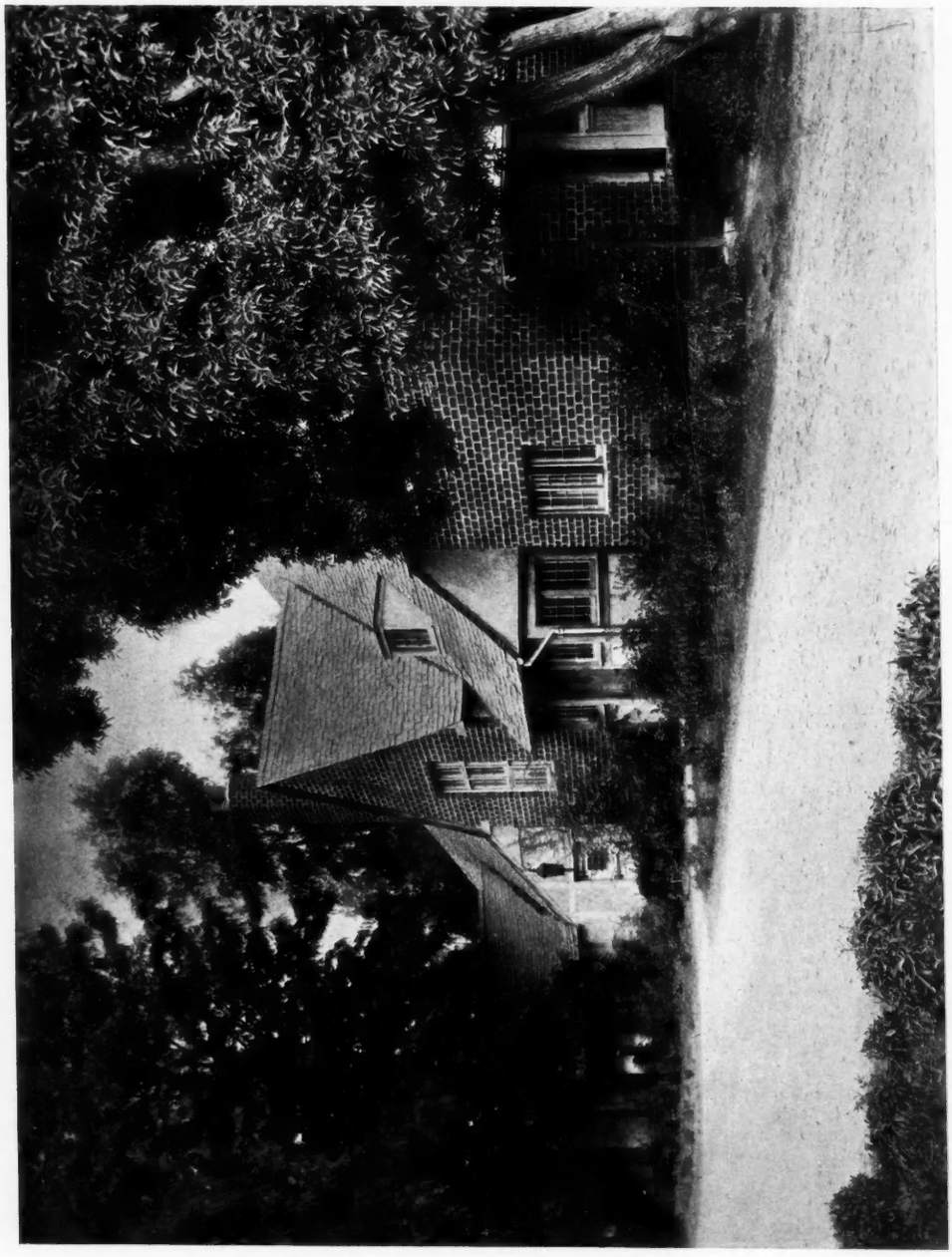

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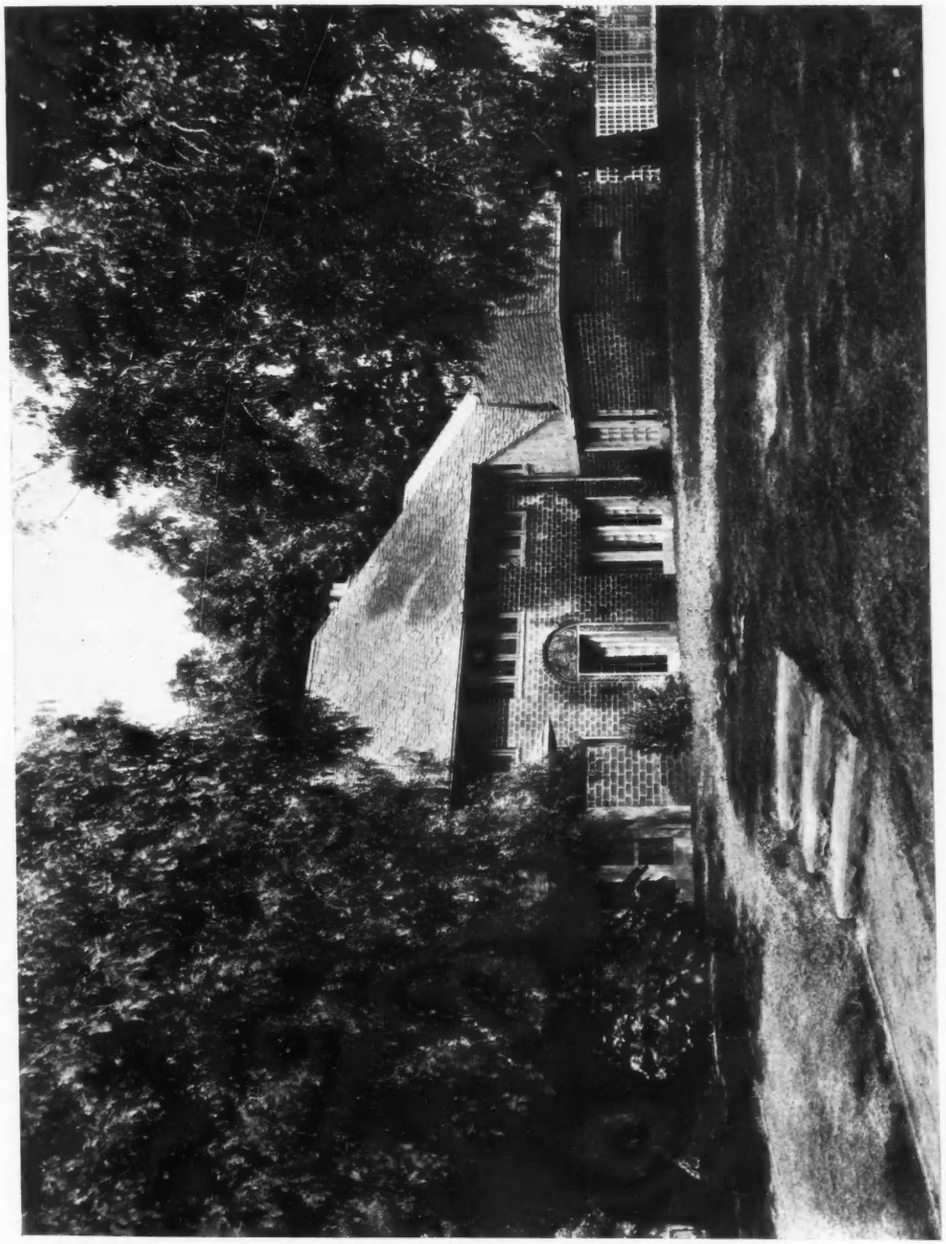

SUPERINTENDENT'S RESIDENCE,
WHITTIER STATE SCHOOL,
WHITTIER, CALIFORNIA
GEO. B. McDOUGALL, ARCHITECT

VIEW OF INDUSTRIAL COURT, SHOWING POWER HOUSE, LAUNDRY, BOILER AND PRINT SHOPS

REAR OF BOYS COTTAGE No. 10

WHITTIER STATE SCHOOL,
WHITTIER, CALIFORNIA
GEO. B. McDOUGALL, ARCHITECT

MAIN ELEVATION, HOSPITAL BUILDING

MAIN ELEVATION, SCHOOL BUILDING

WHITTIER STATE SCHOOL,
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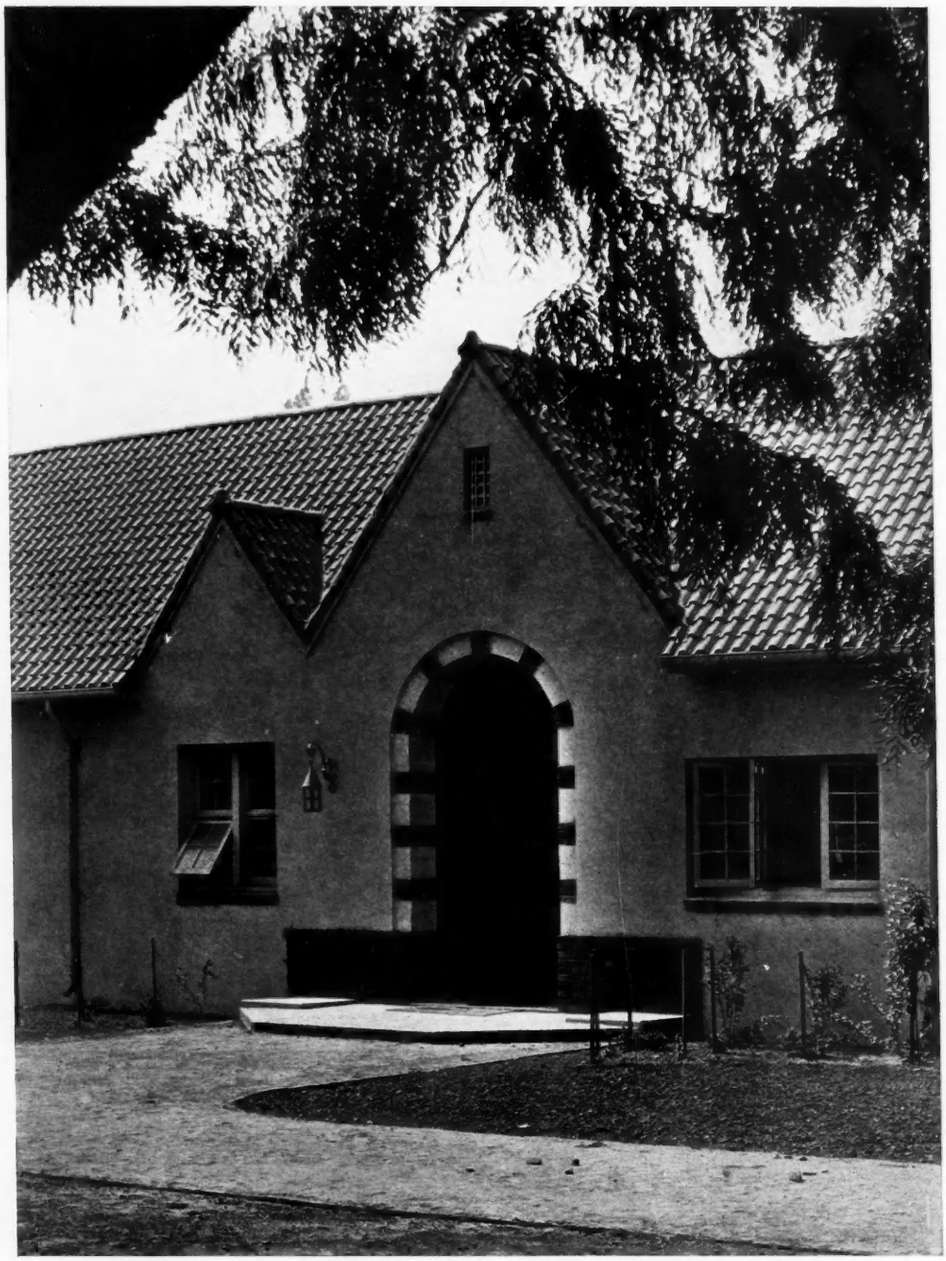

ENTRANCE DETAIL, SCHOOL BUILDING
WHITTIER STATE SCHOOL,
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THE GARDEN

NOTES ON BERRIED SHRUBS

By Katherine Jones

(Concluded from December Issue)

Punica Granatum.—This is the variety that produces the edible Pomegranates. The flowers may be either red or white and the foliage is a yellow-green in color, which is distinctly different from the greens generally about it. It may therefore be used as an accent plant or a specimen plant, as its bright fruit forms a pleasing contrast with the leaves. It is hardy and largely grown in the hot interior valleys, where it is particularly welcomè, both for fruit and for ornament.

The one with variegated leaves is called Madame Legrellei and the dwarf form is called P. granatum nana.

Pomegranates are free flowering and bloom most of the summer. Their leaves are deciduous.

Used as pot plants in France, as a wall plant in England, and in masses and as a specimen plant in California.

Propagated from cuttings of hard wood or from layers.

Pyracantha Angustifolia.—This plant is always attractive. It has an abundance of foliage to set off the fruit, the flowers are fair but it is the berries that are the crowning glory. They begin to show a yellow color in September and usually by November are a brilliant orange. This color they retain until June. A well-cultivated shrub full of berries, as the Japanese know how to grow it, is a handsome thing. To bring the berries to perfection a certain amount of fertilizers must be applied while the berries are filling out and they must also be watered freely at this time. However, these are the last to bring forth their berries and usually the winter rains are sufficient to bring them to their maturity.

In Southern California this year there were many complaints about this shrub—it is dying out as soon as it reaches maturity, due to some insect. This trouble has become so prevalent that it is hard to buy it, the nurserymen being unable to keep it in stock. It is said to be a borer from our native chaparral.

Good for specimen shrub, for picturesque effect and fine as an accent shrub back of two other shrubs.

Pyracantha Crenulata. — (Nepalense White Thorn.)—A fast growing berried

(Concluded on Page XVIII)

NEW GENERAL OFFICE BUILDING OF THE PACIFIC GAS AND ELECTRIC COMPANY

The new general office building which the Pacific Gas and Electric Company is preparing to erect at the southeast corner of Market and Beale Streets, in San Francisco, will be an outstanding addition to the lower Market Street business district. Rising to a height of seventeen stories, it will be exceeded by only the Hobart and the Standard Oil Buildings. The new building will stand on the west half of the block between Beale and Main Streets the other 50-vara lot on the Main Street corner being occupied by the new 16-story building of the Matson Navigation Company, now under construction. The two structures combined, will present one of the most striking blocks in the city.

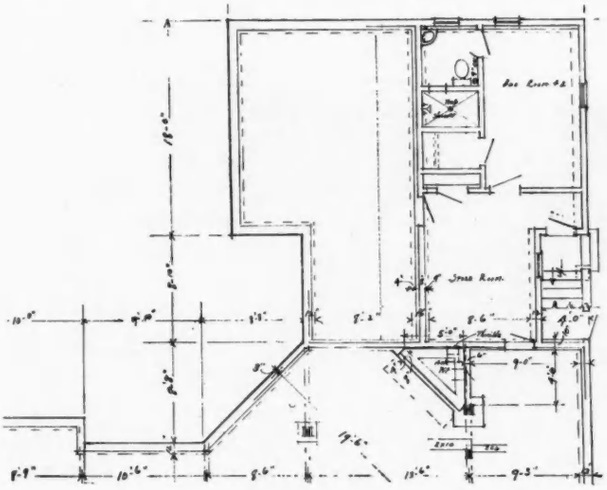
Architecturally, the design is a straightforward treatment of the problem in a simple dignified and monumental manner. The notable features of the exterior are the first story arcade with its central entrance arch, the plain and simple shaft and the interesting colonnade at the top. The windows are so grouped as to carry vertical lines from the base to the cornice, these lines being accentuated by the colonnade and the broken cornice. This treatment of the upper portion gives interesting shadows and a pleasing and graceful effect. The monumental scale adopted is particularly in keeping with this simple and dignified scheme of treatment.

The first floor covers the entire site and is devoted to those departments most frequent and intimate contact with the public, and to an auditorium for general assembly purposes seating 500 people. The main entrance lobby is handled as a distinct architectural feature giving ready access to the elevators, the assembly hall, and the departmental offices on either hand.

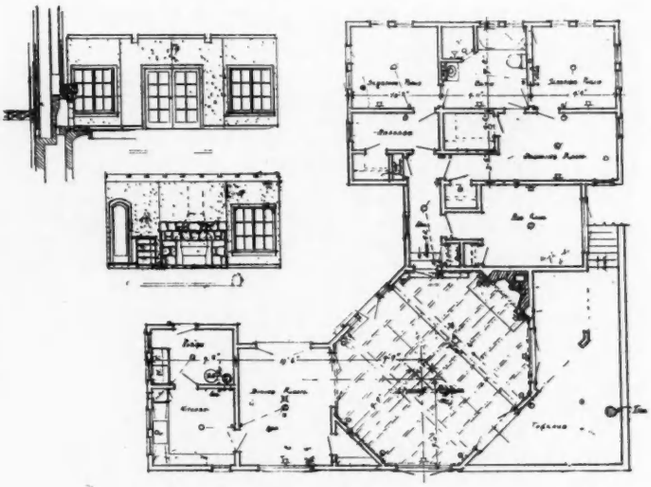
Above the main story, the floors are ell-shaped, forming a large well-lighted court in the center, opening upon a similar court in the Matson Building to the east. Consideration has been given to possible expansion by provision for the future construction of two additional bays in the main shaft along Beale Street, and an additional wing across one side of the court. When necessary either or both of these expansions can readily be made without interrupting the occupants of the building.

The construction of the building will be Class "A" in every particular, steel concrete

(Concluded on Page XVII)



BASEMENT PLAN
HOUSE OF C. E. GREENFIELD, SAN ANSELMO, CALIFORNIA



MAIN FLOOR PLAN
HARRIS ALLEN, ARCHITECT

(Concluded from page 8)

elevation. A live-oak draped with Spanish moss grows where the front of the house is to be. This tree, the largest one on the plot, must be preserved, so it will be allowed to grow up through the floor of the terrace.

The patio idea, which turned to resemble more the Mexican "precita," was incorporated very harmoniously into the plan by placing it at the rear of the living-room enclosed on two sides by the bed-room and kitchen wings. The arrangement of rooms is expressed happily in terms of the site. The front of the octagonal living-room is almost entirely of glass; the opposite side also, in the form of French doors leading to the "patio", paved with irregular cement flagstones. This room, the keystone of the house, completely fulfills one's idea of a country home, with its ceiling of solid beams, walls of rough plaster and cobblestone fireplace.

The bed-rooms consist of two parts—sleeping porch and dressing room, which is a sanitary and comfortable way of planning the house in the country so as to conserve space and heat and also include the benefits of outdoor sleeping.

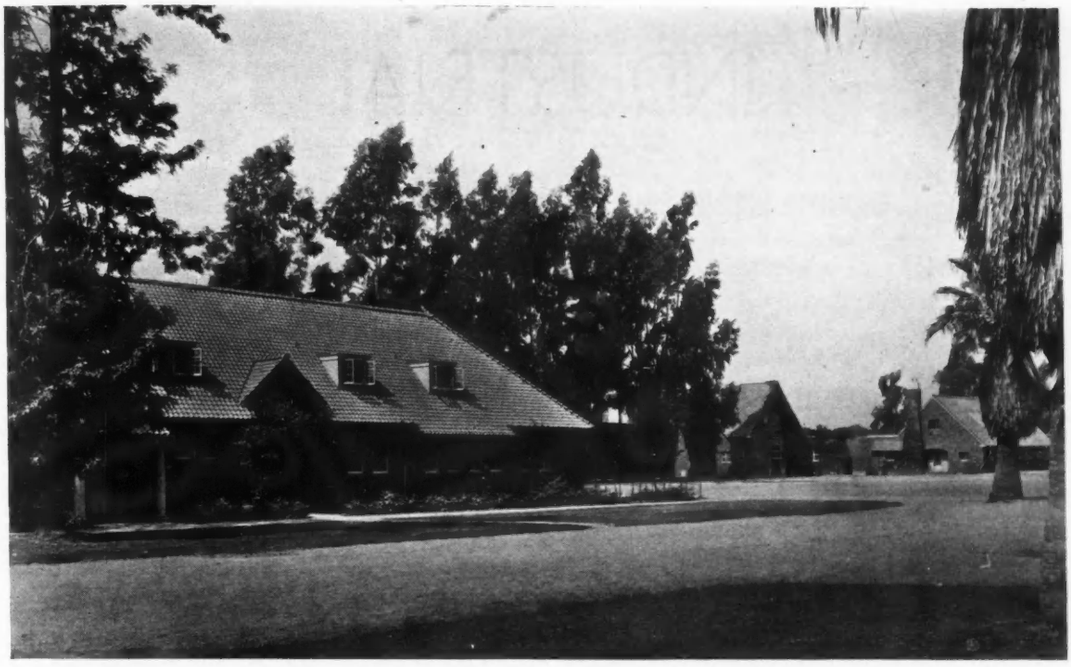
This house is designed for comfort. It is well-planned for a rather unusual and difficult location. With its grey-green sides and touch of varied colors in roof-shingles it is in sympathetic harmony with the tints of surrounding shrubs and trees. Not a distinct "type", neither "English Cottage", "French Cottage", "French Peasant" or "Mexican-Spanish"; but contrived to express, by the adaptation of features from these styles, the individuality of the owner, at a moderate cost.

THE WHITTIER STATE SCHOOL

The treatment of the new Whittier buildings, including their setting, is noteworthy. There is little of the "institutional" about this institution; it does not present the picture which appears mentally in connection with that word, of a series of factory-like units, cold, dreary, forbidding. This, on the contrary, is essentially home-like, and its influence on its inmates should prove similar to that of a good home. The effect of environment is unquestionable; it should be reflected in a growing spirit of interest, energy, ambition, self-respect, among these boys.

And the buildings are constructed for safety and comfort as well as for appearance. A few brief descriptive notes will be of interest:

Superintendent's Residence. This residence is built of brick exterior walls with wooden floors and partitions. The exterior brick walls are of common brick especially selected for color and laid flat in the wall. The roof is laid with slates with irregular courses. The majority of the slate used was salvaged from an old chapel building recently torn down and this material had taken on a nice color due to its exposure to the weather. The balance was made up of new black slate which gave a two-tone effect to the roof. Some interesting wrought iron work will be noted as used for door hinges, escutcheons, lanterns, etc. These were designed and executed by some of the boys in the blacksmith shop at the School. The garden entrance shows a little graffi to detail done in black and grey, which was designed on the job as the work was executed. Much of the success of the house is due to the landscape



BOYS' COTTAGE, No. 11, WHITTIER STATE SCHOOL
WHITTIER, CALIFORNIA — GEORGE B. McDOUGALL, ARCHITECT

work which was performed by the school gardeners.

Hospital Building. This building is built with cherry red ruffled brick exterior walls and red Spanish tile roof. This building at present houses on the second floor the hospital activities of the School, and on the first floor the administrative offices.

Cottages Nos. 10 and 12. These two cottages are honor cottages and each one provides accommodations for about forty boys; each contains a living room, dining room, play room, kitchen, officers' quarters, dormitories, baths, etc. The exterior walls are of red ruffled brick and the roofs of red Spanish tile.

Boys' Cottage No. 11. This cottage is built of the same materials as the boys' cottages mentioned above but is used to house the receiving and the detention units. It is designed to furnish the usual living accommodations for the boys and is planned so that the units surrounding two interior courts are used as playgrounds and exercise courts for the boys.

Power House, Laundry, Tailor Shop and Print Shop. These buildings are all built with red ruffled brick walls and accommodate some of the industries needed for the School; all are provided with up to date equipment, are well lighted and ventilated. The power house provides heat and hot water for the institution, and adjoining this building are the carpenter shop, the blacksmith shop, the machine shop and the paint shop. The laundry has new modern equipment and does all the work for the institution. The print shop has adequate presses, etc., and prints several journals distributed by the School. The exterior of the print shop is more or less unique in that the facade somewhat accuses the saw tooth lighting used.

School Building. This building provides five class rooms, a laboratory, principal's office, conference room, etc. Exterior and interior walls are Heath Tile, those in the corridor being left exposed. The walls are plastered and painted with a warm grey color; the roof is of small Spanish tile.

SUPERINTENDENT'S RESIDENCE

INDUSTRIAL

Building Program for 1923 Largest in History of Western States

Summary of Proposed Activities Outlined by Various Industrial Centers

STOCKTON

Indications point to a record breaking building year for Stockton. Within a few weeks construction will start on two civic buildings, a city hall and an auditorium, which together will cost approximately $1,000,000.

Plans are now being prepared for seven two-story reinforced concrete brick and terra cotta college buildings for the College of the Pacific, which will cost $650,000. Construction will be started about June 1st.

Announcement has been made of the construction of a pre-cooling and cold storage plant, costing $260,000. The plant will be located on the Stockton waterfront and is expected to be completed before the summer months.

Favorable recommendation has been given the proposal for increasing the size of the Stockton postoffice building. This work is estimated to cost $180,000.

Many business blocks have been planned and bids will be called for immediately. The year also promises one of the most active home building programs that has been carried out in some time.

SEATTLE, WASH.

Seattle begins 1923 with more building in sight than in 1922, when all previous records were smashed with the issuing of $20,000,000 in permits.

Some of the larger projects which will be put up this year are a $3,000,000, 1,000-room office structure for Dexter Horton Bank interests; the $2,800,000 "Olympic" Hotel; a million-dollar vaudeville theatre and several substantial store buildings.

In addition to this, apartment house construction will continue on a big scale. There is also considerable building, both in concrete and frame structure, in the industrial sections.

LOS ANGELES

The building forecast for Los Angeles in 1923 would be astonishing were it not a continued, natural development. Even the natives, who have been here since the "Eighties" are no longer surprised at anything. They have seen their old land marks go with a heart throb, they have endured the ravishing of famous "squares", but now they have accepted with common sense, not to say resignation, the tremendously progressive building program that seems to have no ending.

According to performance of 1922, wherein the building total reached $121,206,787, and plans now listed with the Los Angeles Chamber of Commerce, it is not a wide estimate to figure $150,000,000 as the total for this year. School buildings to the amount of from nine to twelve million, are scheduled for 1923 and the new public library, the new Hall of Justice and City Jail at a value of $1,500,000 and $3,000,000 respectively add to the big start.

Recorded at this writing, not including contemplated buildings, are: nine office buildings, totalling $7,940,000, which includes the Los Angeles Chamber of Commerce building, costing $2,500,000 twelve store and loft buildings to total $3,725,000; eleven warehouse, factory and garage buildings, $2,805,000; industrial: Borax refinery and Union Pacific shops: $2,250,000; hotels and apartments, six hotels, $3,225,000 and seven apartment structures, $5,325,000; this includes two one-million dollar, ten and thirteen-story buildings in the Wilshire district, and the great cross-shaped structure in Hollywood, 350x250 feet, $1,500,000. Hospitals four, totalling $1,100,000; churches, eight, total, $2,594,000; club and lodge buildings, seven, $3,950,000; theatres, two, $1,300,000.

For the first nine business days of January 1,692 permits had been issued totalling in value close to $4,000,000. Housing and mis-

(Continued on page 14)

Carquinez Bridge Aid to Industrial Development of Northern California

The building of a bridge across Carquinez Straits appears to be near realization. It will connect Contra Costa and Solano counties and for the first time provide a direct highway between the northern and the central parts of the State—and that means great things in the way of industrial development.

There are several bridge projects before the people of the San Francisco Bay district, but the Carquinez Straits project is by far the most advanced. The awarding of a franchise for Carquinez bridge is to come before the Supervisors of Contra Costa County on January 9. If the award is made at that time, and there is every reason to believe it will be, there is at least one company, now seeking the franchise, that has announced its readiness to begin work on the structure immediately and have it open for traffic in the Spring of 1924.

There are three applicants for the Carquinez Straits bridge franchise. The project was pioneered by the San Francisco Transit Company and that company, evidence so far taken by the Contra Costa Supervisors, shows, is best prepared to start immediately on the construction work. It has had two years to get ready for the job, its plans and specifications are complete and these have been approved by the War Department.

The magnitude of the project is evidenced by an examination of the plans prepared by the engineers of the Transit company. This engineering staff is headed by Charles Evan Fowler, of Detroit and New York, one of the leading bridge engineers of the world. Associated with him are Dr. D. B. Steinman, of New York, probably this country's greatest authority on long span bridges; Edwin Duryea and H. L. Haehl, of San Francisco. All are members of the American Society of Civil Engineers.

The bridge is to cross the straits from Eckley, midway between Crockett and Port Costa, to Dillon's Point, midway between Benecia and South Vallejo. The structure is to be of the suspension type, 3000 feet in length, and 135 feet above mean high water. The middle span, for navigation, is to be 1500 feet, with two shore spans of 750 feet each.

The bridge towers are to arise 300 feet above the foundations that are to be sunk to rock at the bottom of the stream. These foundations will go down approximately 100 feet, will have a width of 90 feet and a breadth of 20 feet.

The two main cables which will support the big structure are to be 11½ inches in diameter, and each will be composed of seven strands containing 350 No. 6 R. G. (0.192 inches in diameter) galvanized steel wires. The cables are to be continuous over the towers and each is to be wrapped with No. 9 soft annealed galvanized steel wrapping wire. The suspenders are to be 1½ inches in diameter.

The total weight of the steel in the towers, cables, stiffening trusses, etc., is estimated at 8,925,000 pounds. The cables alone will weigh 1,750,000 pounds. The total weight of the bridge, not including the foundations and the anchorages, will be 14,105,000 pounds. In the anchorages there are to be 1,034,000 pounds of steel and 10,000 cubic yards of concrete. In the two tower foundations there will be in excess of 8000 cubic yards of concrete.

Across the bridge there is to be a roadway thirty feet in width and the bridge is designed to carry a moving load of 4,500,000 pounds. A paved roadway is to connect each bridgehead with the State highway on either side.

When this bridge is completed it will be possible for vehicular traffic to move in practically a direct line between Northern California and Central California. At the present time this cannot be done, except by going around by way of Stockton and crossing the Sacramento river at Sacramento on a bridge—or by using a ferry. The Stockton route means many excess miles of travel; the ferry means delay, and there are various commodities such as explosives and gasoline that are forbidden transportation on the ferries.

It is not difficult to visualize the fact that the bridge will prove a great boon to industrial and agricultural interests throughout a great part of the State. Direct traffic is now impossible. The ferries are slow, their accommodations are limited and they operate only during certain hours. The farmer in the northern counties cannot reach the early morning markets in the Bay cities without at least 24 hours delay and spoilage often results. With a bridge, open all day and all night and over which he can cross within three minutes, this costly delay will be avoided and the result is certain to be intensive development in Solano,

(Concluded on page XV)

SAN FRANCISCO CHAPTER AMERICAN INSTITUTE OF ARCHITECTS

MONTHLY BULLETIN

OFFICERS

Geo. W. Kelham, President.
Henry H. Myers, Vice-President.
J. S. Fairweather, Secretary-Treasurer.

DIRECTORS

Wm. Mooser, three years.
J. H. Blohme, three years.
A. J. Evers, two years.
Harris Allen, two years.
S. Schnaittacher, one year.
Morris M. Bruce, one year.

NEXT MEETING

The next meeting will be held Thursday evening, January 18, 1923, at the Architectural Club Rooms, 77 O'Farrell Street, at 6:30 p. m., and will be preceded by a Directors Meeting at 5:30 p. m.

The President will endeavor to have some person at the next meeting to talk on a subject of interest to the members.

DECEMBER MEETING

The Board of Directors feel in this meeting at this season of the year a general feeling of good fellowship and extend a Happy and Prosperous New Year to all members of the Chapter.

The Directors and Regular Meeting of the San Francisco Chapter of the A. I. A. was held Thursday evening, December 21, 1922, in the Architectural Club Rooms, 77 O'Farrell Street. The meeting was called to order by Vice President Henry H. Myers. The following members were present: E. B. Hurt, J. H. Blohme, Morris M. Bruce, Herbert Schmidt, Wm. O. Raiguel, Harris Allen, A. J. Evers, Wm. Mooser, S. Schnaittacher, J. S. Fairweather.

NEW BUSINESS

A draft of a Circular of Information was made by Harris Allen which was read and a copy was ordered sent to each Director for his comments.

COMMUNICATIONS

A letter from the Spring Valley Water Company was read and ordered published in the Bulletin.

A letter from Albert Schroepfer relative to the Chapter and Industrial Relations received and placed on file.

ADJOURNMENT

There being no further business before the Chapter the meeting adjourned.

J. S. FAIRWEATHER,
Secretary.

San Francisco, December 14, 1922.

S. F. Chapter of Architects,
Care J. Stewart Fairweather, Secy.,
Balboa Bldg., S. F.

Gentlemen:

From time to time we receive complaints of poor service from consumers in various parts of the City, our latest being from owners who have installed flush valve toilets and instantaneous heaters.

This condition is usually due to the installation of too small a house pipe for the water pressure at that particular point, and to the character and number of fixtures to be supplied. In order to overcome this a considerable expenditure must be entailed by the property owner in making the necessary changes.

The pressure conditions, which vary considerably in various parts of the City on account of the topography, must be taken into consideration when determining the sizes of the house piping if a satisfactory service is desired.

With a view to co-operation we respectfully request that you notify your membership that we will be glad to furnish such information as is necessary in determining sizes of pipes for various classes of houses, based on the pressure conditions existing.

Very truly yours,
SPRING VALLEY WATER COMPANY,
By V. E. Perry, Asst. Mgr. Water Sales Dept.

ARCHITECT CHOSEN BY MILLS COLLEGE

At the December meeting of the Board of Trustees of Mills College, Walter H. Ratcliff, Jr., was appointed supervising architect of Mills College. For the progressive development of the campus, Ratcliff will use the general architectural plan drawn by Bernard Maybeck in 1918. This plan was the gift of the late Mrs. Hearst and is known as the Phoebe Apperson Hearst general plan for Mills College. Each building to be constructed in the future will conform to the outlined scheme. The new roadway recently made from the Beulah Gate, on the line of the San Francisco-Oakland Terminal Railways, to the heart of the campus is a part of this general plan. It will make the north and south axis, crossing the east and west axis near the present "College Hall." Work has already begun on the second roadway which will begin at Seminary avenue opposite Trainor street, and end at the proposed site for the new College Library on Aliso Hill. Planting also will follow the extensive designs of Mr. Maybeck.

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Western Building Activities

(Continued from page 10)

cellaneous building has not been included in this article, but operations are being continued on a very extensive scale. It is estimated that dwelling permits will total 25 per cent more this year than in 1922. In last year's report there were 16,754 permits for single dwellings 275 for apartment buildings, and 505 for flats up to December 1.

In the metropolitan area of Los Angeles factory and industrial buildings totalled about $12,000,000, one-half of which was in Los Angeles proper. Figuring the building cost at approximately $1.50 per square foot, this area covered 9,000,000 square feet.

Los Angeles' neighbor cities in Southern California piled up a total in 1922 of approximately $100,000,000 in building and this year it is expected they will increase this aggregate.

DENVER, COLO.

Conservative estimates are that at least $16,000,000 will be expended for building here this year, in addition to residences and business houses which are now in course of construction.

The most extensive educational building program ever planned in Denver will be launched by the Board of Education this year. During the year construction work will be started on three new high schools, two new junior high schools and several elementary schools. A two and one-half story school administration building will be completed before the summer.

The State Medical School and Hospital of the University of Colorado is being constructed at a cost of $1,850,000. The hospital will have seven buildings and it is probable that the institution will be near completion by the end of 1923.

The Presbyterian Hospital now being constructed will cost a million dollars or more.

Burlington Railroad shops at a cost of $2,500,000, the 16th street viaduct at a cost of $470,000, the Broadway viaduct at a cost of $380,000, the Patterson office building at a cost of $500,000 and the Myers Pulp and Paper factory at a cost of $550,000 and various other projects that are now under way will be completed during the year 1923.

SAN JOSE

The building activities within the corporate limits of San Jose during 1922 aggregated $1,971,660, an increase of more than $700,000 over 1923, and construction in the city but outside the municipal lines reached approximately $1,000,000 more. Similar activity characterized the year in the smaller cities throughout the country. Continuation of present work and plans for the immediate future will keep all the building trades mechanics in city and county busy for a least the next six months. Residence construction is steadily increasing in San Jose and its suburbs; other 1923 structures now certain are Parochial School, $100,000; Scottish Rite Temple, North Market Street, $300,000; First Presbyterian Church addition, $75,000; J. S. Mise Hotel, 60 rooms; Williams Binder business block, South Market Street, $75,000; new business structures covering entire block, site of old Eagle Brewery, by T. S. Montgomery syndicate; Commercial Club, eight-story modern structure, adjoining Bank of San Jose, $400,000; Knights of Columbus building, adjoining Commercial Club building, $160,000; new Science Hall, Santa Clara University, $148,000. The Hotel Company of Palo Alto expects to finance a $275,000 tourist hotel this year, and several school districts in the county, who during the past two years have sold bonds aggregating approximately $2,000,000 for new grammar and high school buildings, will continue their building program throughout the present year.

COLORADO SPRINGS, COLO.

The building program for Colorado Springs for 1923 will be the largest in the history of the city. Under construction now are the one-half million dollar Municipal Auditorium; Day Nursery, costing $250,000; the Deaf and Blind Institute at a cost of $150,000; the Stratton Home, at a cost of $100,000; the Broadmoor Hotel costing $75,000 and several other large projects, including housing contracts amounting to several hundred thousand dollars.

There are to be built this year school buildings for which the bond issue for $1,100,000 was recently voted. The Methodist General Hospital which will cost $2,500,000; a new office building which will cost about $400,000, besides additions and alterations on local banks and commercial houses.

SACRAMENTO

Building expansion in the field of civic, business, industrial and private endeavor, which will exceed by many millions the record for 1922, is forecast for the coming year in Sacramento.

Plans were just approved in Washington for a million dollar auxiliary post office building; the State of California has began active work on the erection of Capitol Extension Buildings costing over $3,000,000 and a State Printing Office costing $140,000; the city of Sacramento is planning extensions to its school buildings and will also take action on plans for a million dollar Civic Auditorium.

The new business structures to be erected are the twelve story California State Life Insurance Building, a new department store and club building costing over a million dollars, a public market costing $200,000 and extensive additions to the John Breuner Company furniture store. The Sutter Hospital now under course of construction will cost $500,000.

A consistent demand for new homes running in value from $7,000 to $15,000 is continuing unabated.

BUTTE, MONTANA

Butte's 1923 building program, thus far announced, includes the construction of a new million dollar hotel and a $350,000 Masonic Temple annex. The work of tearing down the old Finlen hotel, which the new structure will replace, is scheduled to begin January 15, while excavation for the Temple annex is nearing completion. It is hoped to finish both buildings within the year.

Because of cold weather, construction never gets well under way in Butte until spring and for that reason it is rather difficult at this time to predict with any degree of accuracy, just what the building program will include. In 1921, building permits totaling 181 were issued by the city department of public works and involved property valued at $91,448. In 1922, permits to the number of 272 covering a property value of $314,000 were issued, the year's building program including five large business structures and apartments. Architects and contractors expect that 1923's construction work will average about $3,750,000.

WACO, TEXAS

The building permits for 1922 showed an increase in total valuation over 1921 of 69 per cent. We anticipate a still greater building for 1923. Among the prominent activities are the additional buildings to be erected at Baylor University; the new plant of the Southwestern Portland Cement Company; the $2,000,000 M. K. & T. locomotive shops; several large commercial and industrial buildings and a number of residence structures.

Active plans are being formulated looking toward making Waco the textile center of Texas. Waco has a cotton mill and twine mill, both of modern construction and equipment and it is proposed to erect several more mills, the construction of which is expected to start this year.

PORTLAND, ORE.

Residential building is proceeding at the remarkable pace established in 1922, together with large modern apartment houses and extensions to some of the office buildings that were built with the intention of enlargements at a later date. The value of building permits of 1922 was close to $23,000,000.

The industrial growth is substantially reflected in the net increase of power supplied by the utilities which has shown a uniform growth since the close of the war. This is not caused by any one particular line, or in one particular plant, but by many small accretions covering the widely diversified industrial community.

FRESNO, CALIF.

With a record of more than $7,250,000 in buildings for 1922, several large office buildings now under construction, and plans announced for a number of similar structures, to be erected the present year, Fresno may be expected to support a building program of considerable importance in 1923.

The Patterson block, will be completed within three months. The Californian, on which work is under way will be completed by September. The Power Company building and the Fidelity Bank building, two large office buildings will also be completed during the year.

Better types of apartment houses will be erected, as there is a particular need in this field. The home building program, will doubtless fill the greater portion of the entire program since the demand is still very active and the field not yet covered.

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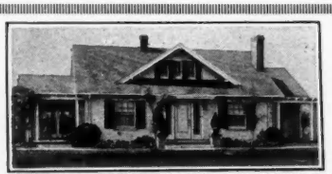

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Exterior of playroom window frame. Sunlight and ventilation were foremost thoughts.

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NEW METHOD OF MEASURING SAND MAKES CONCRETE MORE RELIABLE

The reliability of concrete construction is likely to be increased, and the cost in some cases reduced, by the application of a newly developed method of measuring sand, which is now being tested at the Bureau of Standards of the Department of Commerce. The method has been termed the "inundation method" and consists of measuring sand in a container which has been partly filled with water before the sand is put in, so that when the sand is in, the water is up to the top and the sand completely soaked.

The volume occupied by a given amount of sand when shoveled into a measuring device varies with the moisture content of the sand; the difference in measured volume between dry and moist sand being usually from 10 to 15 per cent and occasionally running as high as 50 per cent. But it is found that if the sand is completely soaked or "inundated" uniform measuring results can be obtained no matter how much the original moisture content may have varied.

TELEPHONE CORNERS

(Concluded from page 5)

shade as a finishing touch. There is a large casement window providing daylight over the right shoulder of the one sitting on the hour-glass stool. The door with the distinctive hardware leads to the kitchen.

Because telephones are not pleasing to the eye as to color and out-line fashion has tried in several ways to camouflage their existence so that unlike the well-behaved small child they are heard but not seen. This holds true principally in the formal home.

In the days when the telephone hung on the wall and we hung on to it, pictures like these could not have been created. Then it was purely utilitarian and ugly! Now the chief requisites for a convenient and attractive telephone corner are that it shall be central, well-lighted, day and night, it shall be provided with a table or shelf for note-taking and holding the directory, a calendar near by and the surroundings harmonious in coloring and decorative in nature.

LASSEN COUNTY LEADS STATE IN LUMBER PRODUCTION

Reforestation Insures New Growth Each Seventy-five Years

Susanville, Jan. 3, 1923.—With an annual cut of over 300,000,000 feet Lassen County now claims to be the leading lumber producing county in the State of California. Over 5000 men were employed in the lumber industry in Lassen County this year and over 1600 car loads of lumber and lumber products shipped out of the county each month to market. Three big lumber companies are largely responsible for this cut. The Red River Lumber Company at Westwood cuts 200,000,000 feet; the Fruit Growers Supply Company at Susanville 75,000,000 feet; the Lassen Lumber and Box Company at Susanville 40,000,000 feet. This is the first year of quantity production for the Fruit Growers Supply Company and next year the cut will run 400,000,000 feet. It is hard to understand these immense production figures unless translated in ordinary terms.

The cut of the Fruit Growers Supply Company this year, for instance, would, if placed in one shipment, make a freight train eighteen miles long. Figuring that it requires 6000 feet of lumber to build an ordinary house the products of this one mill would be sufficient to erect 60,000 homes. Counting an average of five persons to a family this would mean the accommodation of 300,000,000 people. Figuring the cut of the entire county in the same proportion the lumber produced in Lassen County each year will build a city big enough to house 100,000,000 people.

It is only within the last five years that Lassen County has grown into a lumber producing county. The Red River Lumber Company located in Westwood in 1912 and built a city of its own with its own railroads, power plants, and highways. Now the Red River Lumber Company employs 3200 men and is one of the biggest producers of lumber in the west. The Lassen Lumber & Box Co. located in Susanville five years ago and from a very small beginning has grown into an industry employing 600 men and adding to its capacity each year. The Fruit Growers Supply Company with 11,000 stock holders in southern California located in Susanville two years ago and began building the most modern box factory and lumber mill in the world. This company employed 1200 men this year and next year will almost double that force while the capacity of the plant is being increased.

Susanville has grown in the last five years from a little mountain hamlet to a modern town of 4000 people and is now pointed to as the most progressive and prosperous community in Northern California. Lassen County has 533,023 acres of timber land and estimated at the present rate of cutting this timber will last for over two hundred years, but the lumber companies of Lassen County are leading the way in reforestation and through the methods now employed, with the assistance of the forest service, they expect to make their source of supply permanent with a new growth of pines coming up each seventy five years for cutting. Several new lumber manufacturing and allied industries are now contemplating locating in Susanville.

PATENT DEVICE FOR WINDOWS IS INVENTED

A device that will lower the upper sash by means of the lower sash has been patented by Henry C. Trost, of the architectural firm of Trost & Trost, of El Paso.

Four parts of metal, all stamped from the same piece, constitute the device. To engage the upper sash the user pushes the lower one upwards until a clicking sound occurs, which is the contact made between the pendulum device on the lower sash and the beveled surface of the metal attachment on the upper.

The upper window can be lowered or raised any distance.

Mr. Trost said he realized the need of inventing a device that would eliminate the inconvenience of raising or lowering the upper sash. It can be adapted for all sizes of windows.

"Just Christian science," said Mr. Trost, explaining how he had worked it out after years of study. He threw many designs away before he was successful, he said. It will be manufactured soon.

Read the

ANNOUNCEMENT

on page six

Carquinez Bridge

(Concluded from page 11)

Napa, Sonoma and parts of Sacramento county.

To the manufacturer who controls a fleet of trucks—and most of them do—the bridge means bringing close a vast and growing market. The products of the factory can be loaded on the trucks and sent direct, and without delay, to any part of Northern California—night or day the bridge will be open to the manufacturer who seeks quick delivery.

Naturally the proposed bridge will be a private enterprise and tolls will be charged, but it is stated that these tolls will average about fifty per cent less than the present ferry charges. The franchise proposal of the San Francisco Transit Company opens the way for future public ownership. It is provided that the bridge may be purchased by the counties or the State at any time at a price to be fixed by a joint board of appraisers, three to be appointed by the company, three by the public and a seventh by the six. At the end of thirty years—the life of the franchise—it is provided that ownership of the bridge will revert, without charge, to the counties or the State as may be desired. The life of the bridge is estimated at 200 years.

The actual construction work on the bridge itself will bring a period of extra prosperity to several industries and localities. The San Francisco Transit Company's engineers have announced that they desire to place their orders for materials with local firms. The Cowell Cement Company, whose plant is located at Mt. Diablo, and the Columbia Steel Company, of Pittsburg, Contra Costa County, have already been consulted. The construction plans as prepared by the company call for the employment of 200 men at the start of the bridge building job and the increasing of this force as rapidly as possible to 600 men. The housing of these men, and in some instances their families, in Contra Costa and Solano counties is going to be a problem. The building of the bridge will take from 15 to 18 months.

To the localities in the vicinity of the bridge site the construction of the bridge means added prosperity from the very start. To a great part of the State the completion of the bridge will open new avenues for trade, greater territory for the autoist to explore, and mark the dawn of a new era of prosperity for many industries.

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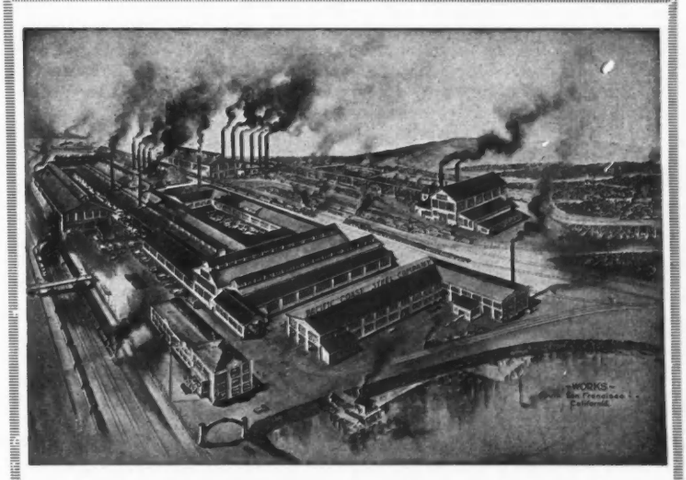

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Washington State Chapter

NOVEMBER MEETING

John W. Roberts headed a committee from the Associated Industries and presented to the Chapter the situation as to Union Labor, requesting that the architects assist them to prevent the establishment of closed shop conditions. President Gould referred the entire matter to the Executive Committee for recommendation to the Chapter.

J. A. Blackwell, the new City Engineer of Seattle, spoke upon the problems of his office, shedding some new light on the work necessary for the accomplishment of any engineering work within the municipality. He also complimented the architects on the fact that they alone are largely responsible for the development of the city plan.

Mr. Naramore reported progress on the work of the Chapter's special committee on the Elks' Competition.

Resolutions upon the death of Mr. Whitney Warren were referred to the Executive Committee.

Harlan Thomas gave an interesting address on the evils of non-zoning, which he has been studying. He was very forceably impressed with the results of non-zoning after his visit to twenty American cities. Mr. Thomas felt that the architect in his training should be equipped to advise, not only as to the planning of the building, but as to the proper type of building to be constructed in a given location. This of course more particularly applies to public and commercial buildings. He believes that stores, theatres, banks, wholesale buildings, etc., should be localized in given districts in order to reduce the growing traffic problem and to make the transactions of the business day more economical in the matter of time expended.

DECEMBER MEETING

C. H. Alden, the Chapter's member on the Ordinance Commission, gave a preliminary report of the work of the Seattle Zoning Commission and suggested that the proposed ordinance be considered by the Chapter with a view to offering constructive criticisms to the Zoning Commission. The Chapter endorsed the general character of the ordinance and referred the review of it to the Ordinance Committee with instructions that they appear before the Zoning Commission with such suggestions as might develop therefrom. Mr. Siebrand, chairman of the Ordinance Committee, has held several conferences with the Zoning Commission which have resulted in a number of needed changes in the proposed ordinance.

The subject of the December meeting was "Architectural Education," in the course of which President Gould called upon Messrs. Blogg, Huntington, Knox and Sexsmith, each of whom gave an interesting account of their opinions regarding architectural training and their personal experience in acquiring what architectural education they have. The talks given by these men proved very interesting in the unknown sides of their characters which they revealed. Each showed himself to be a man of varied parts.

Mr. Alden reviewed the matters which were coming before the Institute Board at its meeting in Denver on December 16th and 17th, which he was leaving shortly to attend.

ANNUAL MEETING

The Chapter's Annual Meeting will be held late in January, upon a date which will be convenient for President Faville of the Institute to be present.

It is planned to hold a business session beginning at 10:00 in the morning to take up committee reports and routine business.

The afternoon session will be given over to architectural education and talks on the creative side of architecture. Members from various sections of the state will be requested to discuss their local problems. Members are asked to furnish slides of work done by them during the year to be shown during the afternoon for the interest of the meeting.

An appropriate evening program will be arranged.

PROBLEMS RELATED TO THE HARDENING OF STEEL

One of the most fascinating and yet obscure subjects in ferrous metallurgy concerns the problem of the hardening of steel by a suitable quenching treatment and a subsequent tempering of it by slight heating. The interest is centered around the hard constituent or structural condition, known as martensite, the name being derived from the noted German metallurgist, Martens. An investigation has recently been completed by the Bureau of Standards which has a bearing on this general subject, and Scientific Paper No. 452, entitled "Structure of Martensitic Carbon Steel and Changes in Microstructure Which Occur Upon Tempering". This paper may be secured at 15 cents per copy from the Superintendent of Documents, Government Printing Office, Washington, D. C.

The study with which this paper deals was based upon the microstructure of a series of steels of progressively increasing carbon content when hardened under different conditions of temperature and heating periods, and the changes in structure which ensue in the same upon tempering.

Practically nothing is gained in hardness by using very high temperatures or very long heating periods prior to the quenching of steel, provided that the "critical" temperature is exceeded upon heating. This conclusion was based upon small specimens treated in the laboratory, in practice, of course allowance must be made for the size and shape of the pieces treated. The general conclusion is valid, however.

The changes which take place in a hardened steel upon tempering occur in well defined stages. Until the temperature of reheating exceeds 250° or 300°C (480-570°F) or marked change is to be noted in the visible microstructure, even at very high magnification, although pronounced changes in the dimensions and density often do take place even at much low temperatures. About 250°C, the separation of the carbon-bearing compound, cementite, from martensite begins and at 400° to 500°C (750-930°F) the steel shows a very fine granular structure under the microscope. As the temperature of reheating is increased, the granules increase in size, although a high magnification is still required for seeing them, and the steel becomes softer and finally loses all of the high tensile properties it gained by the hardening treatment.

NEW OFFICE BUILDING

(Concluded from page 7)

and brick being employed throughout except for the exterior which will be of terra cotta, with a granite base. Marble will be used extensively on the first floor and marble tile in the upstairs corridors. For the upper stories, the elevator lobbies have been designed to serve as entrance vestibules so that those having business on any floor can be promptly and effectively directed.

Provision is made on the 16th Floor for a general employes' lunch room. Other employes' activities are amply provided for, in the way of a library, rest rooms and conference rooms. The elevator machinery, tanks and other necessary mechanical equipment are placed in the attic story, so that the roof will not be disfigured by pent houses and other unsightly structures.

The mechanical installation for the building will be extremely modern. Forced ventilation has been adopted for the lower stories, to obviate noise and dust entering through open windows on the street fronts. The telephones, pneumatic tubes and other means of communication are being particularly studied with a view toward unifying the activities of the huge organization to be located in the building. Investigations are being made as to the adaptability of alternating current elevators, in which remarkable field advance has been made in the past few years. A battery of six high speed cages will be required for adequate service. One of the more novel features of the design is the provision of a parking space for automobiles in the basement, access to which is obtained by way of a ramp descending from Beale Street.

This structure will house the general offices of the Company, which are now scattered among five buildings in all parts of the City, the entire 120,000 square feet of effective area being necessary for the purpose. The San Francisco district offices will doubtless be retained in their present location at 445 Sutter Street, but all departments of a general nature operating throughout the system will be concentrated at the new site.

The architectural design is by Bakewell and Brown, Architects, of this city, who have associated with them C. H. Snyder, consulting structural engineer and Hunter and Hudson, consulting mechanical engineers. The Company is being represented in the arrangements through its Department of Engineering, of which Mr. A. H. Markwart is the vice-president in charge.

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THE GARDEN

(Continued From Page 7)

shrub that may be grown in all parts of California excepting, perhaps, the mountainous districts. Its berries are kept well in sight and are borne on the old wood. They are scarlet and abundant if given plenty of water and good care; but if neglected the berries are small and dark colored. It is among the first of our berried shrubs to ripen in the fall. It will grow in the shade but prefers the sun. If a low ground cover is desired the main stem must be pruned back vigorously before it becomes so large as to show an ugly stump.

It may be used as an accent plant, as a hedge, as a picturesque specimen plant and in small groups. The Japanese use it with delightful effect to partially hide upright stones in the gardens. Propagation from cuttings or seeds.

PYRACANTHA COCCINEA LALANDII.—The variety lalandii is said to have larger leaves and berries than the type itself. In Southern California it has an abundance of berries until about Christmas time, but in Berkeley the berries either drop earlier or the birds pick them long before the holiday season, because their other food is scarce.

Pyacantha coccinea lalandii will grow in the shade, but in that case does not berry well. The berries are borne on the old wood. Since it stands pruning well, it is sometimes used as an ornamental hedge. It can also be used as an accent plant, or as an individual specimen or as a picturesque shrub.

Propagation from cuttings or seeds.

RUSCUS ACULEATUS.—(Butcher's Broom.)—The foliage is puzzling. These are not leaves but are branches that assume the form and function of leaves. Botanists reach this conclusion because the flowers are borne in the axil of a scale and the foliage therefore must be branches or cladophylla (singular cladophyllum). Male and female flowers on different shrubs. To secure berries plant one staminate among several pistillate ones. In Italy it is called a "rat sticker" because it is inserted in rat runways to prevent their entrance into a house—a novel use for the sharp-pointed leaves.

It is used both as a berried shrub and as a non-flowering shrub where a small rounded-headed effect is desired. It is used in the interior valleys, but must be sheltered, not from the cold but from the heat, since it burns in the hot sun. Will grow in dense shade.

The leaves are colored by a red dye and used as house decorations. One pleasing effect was seen in a hotel where a receptacle containing the decoration was lighted by electric globes and gave a soft red glow in an otherwise somber room. Propagation by division.

SAMBUCUS GLAUCA.—(Blue Elderberry.)—This native of California is really a tree but can be used as a shrub for a number of years. Its compound leaves group well with redwood and the Coast Live Oak and the Wild Cherry. It blooms for months and is followed by decorative fruit or it is more often in fruit and flower at the same time.

It is deciduous for about two months, but even when leafless it is a subject of interest. It is drought tolerant and useful to Landscape Architects in many ways, especially about large estates or small home grounds where it can be used far from the hose or where the owner has little time to devote to his garden. Looks especially well with Redwoods.

McLaren says use it as a shelter shrub in exposed situations and in poor soil. Hence must be wind resistant.

Propagate by cuttings.

SOLANUM PSEUDO-CAPSICUM. — (Jerusalem Cherry).—Two or three and occasionally five feet high on old specimens. Its best use is as a pot plant on account of its large red berries which are ripe at Christmas time. It may also be used in a hardy border bed or as a facer in shrubbery mass. Its foliage is apt to be poor and thin unless given good care.

SORBUS AUCUPARIA.—(Mountain Ash).—A small tree with bright red berries in large clusters which last all fall and nearly until Christmas. May be used either as a specimen plant in the lawn or in the background of shrubbery or as a street tree.

Since it has been cultivated in Europe for centuries there are several forms, some erect, others pendulous, and still others with orange colored berries. Propagated from seed.

SYMPHORICARPOS ALBUS.—(Racemosus)—Low shrub to three or four feet. Grows in sun or shade. Pink flowers in spring are not especially ornamental. Cultivated for its white berries which last many months, beginning to ripen in August. Berries said to be poisonous to children. Under cultivation the fruit often becomes large and heavy. Tendency of gardeners is to enlarge berries at expense of the shrub as a whole. Deciduous for about three months, then come the flowers and tender leaves about February. Native shrub. Said to group well with Rosa rugosa, which has its red tips ripe at same time.

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